

# Notice of Allowability

Application No.

10/773,534

Examiner

Keith Hendricks

Applicant(s)

ASHIE ET AL.

Art Unit

1761

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_\_.
2. ☒ The allowed claim(s) is/are 1 and 21-39.
3. ☒ The drawings filed on 05 February 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All ☐ Some\* ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

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### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Elias Lambiris on September 10, 2004.

The application has been amended as follows:

In the specification:

- Please amend the title of the application to read  
--- Meat Tenderization with a Thermolabile Protease ---
- At page 1, line 1, please delete the previous Continuing Data information and insert therefore:  
  
--- This application is a continuation of US Application no. 10/041,080, filed April 18, 2002, now abandoned, which is a continuation of US Application No. 09/620,494, filed [~~July 20, 2000~~ November 20, 2000, now abandoned, which is a continuation of US application no. 09/358,792 (now U.S. Patent No. 6,149,950), filed on July 22, 1999, the contents of which are fully incorporated herein by reference. ---

In the claims:

Please change the dependency of claims 22-35, as found on the attached page.

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~~\_\_\_\_\_~~  
~~\_\_\_\_\_~~

Claim 22. (New) A method as defined in claim <sup>21</sup>~~1~~, wherein said protease has a limited substrate specificity.

Claim 23. (New) A method as defined in claim <sup>21</sup>~~1~~, wherein said protease is derived from a Rhizomucor species.

Claim 24. (New) A method as defined in claim <sup>23</sup>~~1~~, wherein said Rhizomucor species is R. miehei.

Claim 25. (New) A method as defined in claim <sup>24</sup>~~1~~, wherein said protease is treated with peroxy acids prior to said contacting.

Claim 26. (New) A method as defined in claim <sup>21</sup>~~1~~, wherein said protease is derived from a mammal.

Claim 27. (New) A method as defined in claim <sup>26</sup>~~1~~, wherein said mammal is bovine.

Claim 28. (New) A method as defined in claim <sup>27</sup>~~1~~, wherein said protease is chymosin.

Claim 29. (New) A method as defined in claim <sup>21</sup>~~1~~, wherein said protease is obtained from a recombinant host cell transformed with a nucleic acid encoding said protease.

Claim 30. (New) A method as defined in claim <sup>21</sup>~~1~~, wherein said meat after tenderization exhibits a relative shear force of between about 50% and about 90% of said meat prior to tenderization.

Claim 31. (New) A method as defined in claim <sup>30</sup>~~10~~, wherein said meat after tenderization exhibits a relative shear force of between about 60% and about 80% of said meat prior to tenderization.

Claim 32. (New) A method as defined in claim <sup>21</sup>~~1~~, wherein said contacting comprises injection or marination.

Claim 33. (New) A method as defined in claim <sup>32</sup>~~12~~, further comprising tumbling said meat.

Claim 34. (New) A method as defined in claim <sup>21</sup>~~1~~, wherein said meat is contacted with said protease at a ratio of between about 0.001 and about 0.05 AU/g meat.

Claim 35. (New) A method as defined in claim <sup>21</sup>~~1~~, wherein said meat is selected from the group consisting of fresh meat, frozen meat, freeze-dried meat, and restructured meat.

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The following is an examiner's statement of reasons for allowance:


The claims are directed to the use of a protease enzyme for the tenderization of meat, wherein the protease has been treated to render it more thermolabile. The protease utilized in the instant method has a limited substrate specificity as claimed. Meat tenderization utilizing proteases was well known in the art. Certain thermolabile proteases from various microbial sources were also known in the art (for example, see US PAT 6,103,512. Also, US PAT 4,591,565 discloses the production of a thermolabile protease, wherein a native rennet protease used in cheese production is rendered thermolabile by treatment with peroxy acids. However, the use of such proteases which have been rendered thermolabile, in the tenderization of meat products, especially with the instantly-claimed limited substrate specificity, were not taught or suggested in the prior art. Further, regarding the composition claims 36-39, there is no motivation in the art to utilize a protease which is rendered thermolabile, such as that in the '565 patent, with a flavoring agent for use in a meat tenderizing composition.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith Hendricks whose telephone number is (571) 272-1401. The examiner can normally be reached on M-F (8:30am-6pm); First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**KEITH HENDRICKS**  
**PRIMARY EXAMINER**